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DOLL TOY

Patent Number: JP62129076
Publication date: 1987-06-11
Inventor(s): SAKURAI HOSHIMITSU; MATSUMOTO SATORU
Applicant(s):: BANDAI CO
Requested Patent: ⌐ JP62129076
Application Number: JP19850268992 19851129
Priority Number(s): JP19850268992 19851129
IPC Classification: A63H3/46 ; A63H9/00
EC Classification:
Equivalents: JP1914735C, JP6038867B

Abstract

⑲ 日本国特許庁（JP）　⑪ 特許出願公開

⑫ 公開特許公報（A）　昭62－129076

⑤Int.Cl.⁴	識別記号	庁内整理番号	⑬公開 昭和62年(1987) 6月11日
A 63 H 9/00		7339－2C	
3/46		7339－2C	

審査請求 未請求 発明の数 1 （全4頁）

㉝発明の名称　人形玩具

㉑特　願　昭60－268992
㉒出　願　昭60(1985)11月29日

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明　細　書

1．発明の名称

人形玩具

2．特許請求の範囲

（1）胴部、腕部、脚部等を構成する部材の任意の部位に、同部材の断面形に相当する~~平板状の二テーブ~~本体部材とその両側に断面にたいして略垂直方向に突出する係合片部材とからなる連結部材を形成し、同連結部材をインサート成形により一体的に結合してなることを特徴とする人形玩具。

（2）前インサート部材となる上記連結部材は胴部、脚部等を構成する部材の成形素材よりも融点が高く収縮率の小さい素材によって形成してなる特許請求の範囲第1項記載の人形玩具。

3．発明の詳細な説明

「産業上の利用分野」

本発明は関節部を具えた人形玩具に関し、とくにインサート成形により胴部、脚部等の構成部材の任意の位置でねじり回転を可能とするための関節構造を提供するものである。

「従来の技術」

従来の人形玩具は例えば第5図のように胴部a、脚部b、腕部c等の各構成部品を合成樹脂の成形等により、夫々前後もしくは左右の分割部品として成形し、それらの部品を夫々ビス止めあるいはリベット止め等によって組合すとともに相互の部品を回動自在に連結することによって所要の関節部を形成していた。

「発明が解決しようとする問題点」

しかし上記従来型の構造によると、人形玩具の胴部a、脚部b、腕部c等の各構成部品を夫々前後もしくは左右の分割部品として成形しているので、例えば最も控えめに計算しても胴部aで5個、脚部bで5個×2＝10個、腕部cで4×2＝8個からなり、これらの成形部品が計23個、組立のためのビス8個、リベット8個等により、人形を一体組立るのに少なくとも総計39個の部品が必要であり、とくに上記腕部c、脚部b等の構成部材の任意の位置でねじれ回動を可能とするためにはこれよりさらに部品点数が多くなり、これらの部品

は人手によって一々組立ているので組立が極めて面倒で、組立工数が多くかかるとともに製造コストが高価となる等の欠点を有していた。

「問題点を解決するための手段」

本発明は上記従来構造の欠点を改善するものであって、頭部、胴部、四肢等を構成する部材の任意の部位に、同部材の断面形に相当する~~平板状の~~本体ランナー部材とその両側に板面にたいして略垂直方向に突出する係合軸部材とからなる連結部材を形成し、同連結部材をインサート成形により一体的に接続してなるものである。

「作用」

上記構成において、頭部、胴部、四肢等を構成する部材の任意の部位にインサート成形される連結部材の~~本体~~ランナー部材によって、その両側の成形部材を分離するとともに、同~~本体~~ランナー部材の両側の係合軸部材によって両側の部材にたいして係合を保ちつつ互いにねじれ回転を可能とするものである。

「実施例」

以下図に示す一実施例について本発明を説明すると、第1図、第2図は人形玩具の一例を示し、この人形は頭部胴部を含む主要な構成部品として頭部10、胴部20、脚部30からなり、頭部10は夫々頭体自在に連結される頭部11、胴部12、首部13等によって構成される。

かかる人形玩具の胴部構造を一方の胴部20について説明すると、まず第1の成形工程において第3図の様にランナ1aに連なり胴部胴を構成する上記胴部13の軸受け部14に装着するための軸21aを突設した被インサート部材となる軸側部材21と、同じく被インサート部材となる突出軸22aを具えた足部22と、同じく被インサート部材となる突出軸23a、23bを具えた腰部23を形成し、またこれらの他には、胴部20を構成する部材の任意の部位の断面形に相当する~~平板状の~~本体ランナー部材24aとその両側に板面にたいして略垂直方向に突出する係合軸部材24b、24cとからなる連結部材24および~~平板状の~~本体ランナー部材25aとその両側に板面にたいして略垂直方向に突出する係合軸部材25b、25cとからなる連結部材25を形成している。

つぎに第2の成形工程において第4図の様にランナ1bに連なり、上記軸部材21と係合軸部材24bを包持する部材26、同じく上記係合軸部材24cと突出軸23aを包持する部材27、同じく突出軸23bと係合軸部材25bを包持する部材28と、同じく係合軸部材25cと突出軸22aを包持する軸部材29を夫々インサート成形することによって胴部20を一体形成している。

なおこの場合、第1の成形工程で成形され被インサート部材となる上記軸側部材21、足部22、連結部材24、25は第2の成形工程で成形される部材26、27、28、29等の成形素材よりも融点が高く収縮率の小さい素材によって成形している。

以上の様な構成により、胴部20を構成する部材の任意の部位にインサート成形される連結部材24、25の~~本体~~ランナー部材24a、25aを同部材の断面形に形成することによって、夫々その両側の部材26と27および部材26と29を夫々完全に同期して成形時の収縮を防止して夫々分離するとともに、同~~本体~~ランナー部材24a、25aの両側の係合軸部材24b、24cおよび25b、25cによって夫々両側の部材にたいして係合を保ちつつ係合軸部材24b、25cを軸として夫々独立してねじれ回転を可能とすることができる。

「発明の効果」

以上の様に、胴部胴を含む人形の胴部、四肢、頭部等の主要の構成部品を夫々一体的な部品として成形することができ、しかもこれら胴部、頭部、四肢等を構成する部材の任意の部位にインサート成形される連結部材の~~本体~~ランナー部材によって、その両側の成形部材を分離するとともに、同~~本体~~ランナー部材の両側の係合軸部材によって両側の部材にたいして係合を保ちつつ互いにねじれ回転を可能とする関連を形成できる。これによって従来型のほに多くの部品を個別に成形して一々手作業で組立る必要がなく、部品点数ならびに組立工数を大巾に削減し、製造コストを大巾に低減することができる。

また第1の成形工程によって成形される被イン

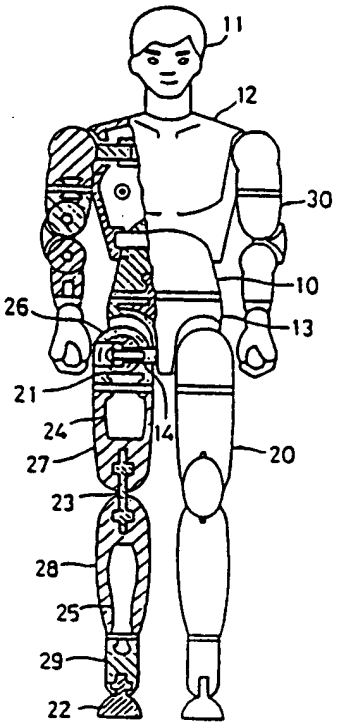
リート部材は第2の成形工程の素材よりも融点が高く収縮率の小さい素材によって成形することによりインサート成形時に融解することがなく、かつ収縮率の大きい部材によってしっかりと固持することができ、関節部等にゆるみやガタが生じることはない。これによって夫々の関節部に適当な摩擦力を得るとともに、人形玩具の各部を動かして任意のポーズをとらせる場合に、夫々の関節部で必要とする機械的保持力を確保することができる。

4．図面の簡単な説明

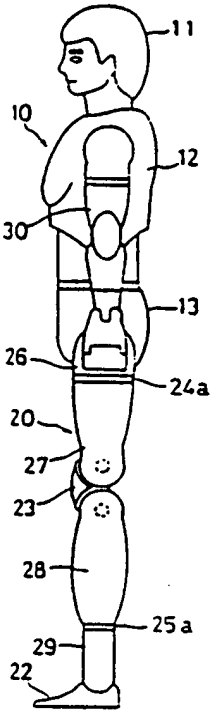
第1図は本発明の一実施例を示す人形玩具の胴部切欠正面図、第2図は同じく人形玩具の胴部切欠側面図、第3図、第4図は同じく人形の脚部の各成形工程の説明用の側面図、第5図は従来型の人形玩具の胴部分解斜視図である。

図中、1a,1bはランナ、20は脚部、24、25は連結部材、24a、25aは~~ランナ~~本体部材、24b、24c、25b、25cは係合補助材である。

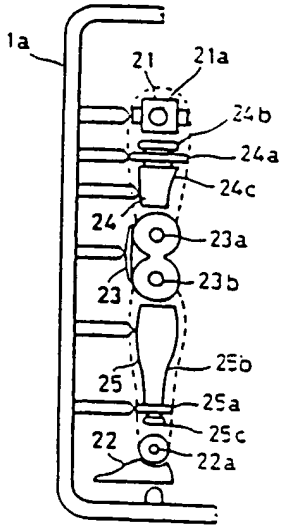
特許出願人　株式会社バンダイ



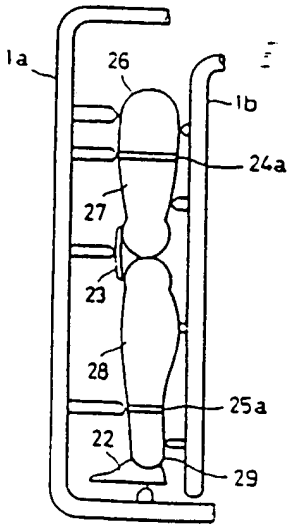
第1図



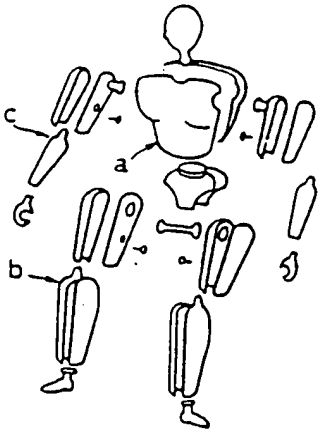
第2図



第3図



第4図



第5図

手 続 補 正 書(方 式)

昭和61年3月20日

特許庁長官 宇 賀 道 郎 殿

1. 事件の表示　昭和60年特許願第268992号

2. 発明の名称　人 形 玩 具

3. 補正をする者
　事件との関係　特許出願人

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　(8136) 弁理士 高 田 修 治

5. 補正命令の日付

　昭和61年2月25日(発送日)

6. 補正の対象　図面全図

7. 補正の内容

　別紙の通り。

(19) Japanese Patent Office (JP)
(11) Publication of Patent Application 62-129076
(12) Publication of Laid-Open Patent (A)

Publication Date: June 11, 1987

(51) Int. Cl.[4]	Identifying Notation	Intra-agency Adjustment Number
A 63 H 9/00		7339-2C
3/46		7339-2C

Request for examination: not yet requested
Number of inventions: 1
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(54) **Title of Invention Toy Doll**

(21) Application No. 60-268992
(22) Application Date: November 29, 1985

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Specification

1. Title of Invention Toy Doll

2. Scope of Patent Claim

(1) a toy doll which forms a connecting member which is made up of (1) a main body member which corresponds in a sectional formation to a member which makes up a body part, arm parts, leg parts and the like at any position; and (2) a hooking shaft member which protrudes in a schematic vertical direction which is relative to the surface of a plate on both sides, the same connecting member being mounted on the inserted shape so that it forms an integral body;

(2) the composition of Claim 1 wherein the aforementioned connecting member which is made up of multiple inserting members is formed by using a material which has a higher melting point and a lower contraction rate than those of the material used to form the member which makes up the leg parts and others.

(3) Detailed Description of Invention

(Industrial Field)

The present invention relates to a toy doll which is provided with articulated parts and which specifically provides a simple structure which makes it possible to twist and turn the leg parts, the arm parts and other component members in any direction by virtue of the insert shape.

(Description of the Prior Art)

As indicated in Figure 5, prior-art toy dolls have a body part a, leg parts b, arm parts c and other component parts which are made of a synthetic resin. This makes it possible to form parts which split the front and back as well as the left and right hand sides. These parts are either screwed or riveted so that they can be combined and at the same time the parts can be connected so that they can rotate freely, thus forming the desired articulated parts.

(Problems Which the Present Invention Attempts to Resolve)

However, the structure of the aforementioned prior-art model meant forming the body part a, the leg parts b, the arm parts c and other component parts of the toy doll as split parts for the front and back as well as the left and right. As a result, even in their most restrained design, the prior-art dolls were made up of 5 body parts a, $5 \times 2 = 10$ leg parts b and $4 \times 2 = 8$ arm parts c. There were a total of 23 formation parts with 8 screws and 8 rivets used for assembly. As a result, a minimum total of 39 parts were required for integral assembly of the doll. In particular, even more parts were required to make it possible to twist and turn the aforementioned arm parts c, leg parts b and other component members at any position. This meant that it was extremely cumbersome to have each one of the parts assembled by hand, there were many assembly steps required and at the same time, the manufacturing costs were high which made the structure deficient.

(Means Used to Resolve These Problems)

The present invention is an improvement on the aforementioned defects in the prior-art structure. It forms a connecting member which is made up of (1) a main body member which corresponds to the sectional shape of the aforementioned member and (2) a hooking shaft

member which protrudes in a schematic vertical direction relative to the surface of a plate on both sides at any location on the member which makes up the body part, the arm parts and the leg parts and others. The aforementioned connecting member has an insert shape so that it can be mounted to form an integral piece.

(Operations)

In the aforementioned configuration, the main body member of the connecting member which is insert-formed at any location on the member which makes up the body part, the arm parts, the leg parts and the like is used to split the formation members on both sides of this. At the same time, a hooking shaft member on both sides of the aforementioned main body member is used to maintain the hooking state relative to the members on both sides so that they can be twisted and turned.

(Practical Embodiment of the Invention)

Next, we shall explain the present invention using a practical embodiment of it by referring to the figures as follows. Figure 1 and Figure 2 are an embodiment of the toy doll. This doll is made up of a body part 10, leg parts 20 and arm parts 30 as the main constituent parts which comprise the articulated parts. The body part 10 is made up of a head part 11, a chest part 12, a waist part 13 and the like which are connected so that they can move freely.

Next, we shall describe the leg parts 20 as an integral part of the toy doll. First, in the first formation step, a shaft 21a which is connected to a runner 1a, as indicated in Figure 3, and which is used for mounting on the bearing part 14 on the aforementioned waist part 3 which makes up the articulated parts is formed using (1) a shaft side member 21 which serves as the inserted member which is disposed so that it protrudes; (2) a foot part 22 which is provided with a protruding shaft 22a which serves as the inserted member; and (3) a leg part 23 which is provided with protruding shafts 23a and 23b which likewise serve as the inserted member. Between these, a connecting member 24 which is made up of (1) a main body member 24a which corresponds to the sectional shape at any location on the member which makes up the leg part 20 and; (2) hooking shaft members 24b and 24c which protrude in a vertical direction relative to the surface of a plate on both sides form a connecting member 25 which is made up of hooking shaft members 25b and 25c which protrude in a vertical direction relative to the surface of a plate on both sides.

Next, in the second formation step, (1) a member 26 which is connected to the runner 1b, as indicated in the figure, encapsulates and retains the aforementioned shaft member 21 and the hooking shaft member 24b; (2) a member 27 which likewise encapsulates and retains the aforementioned hooking shaft member 24c and the protruding shaft 23a; (3) a member 28 which likewise encapsulates and retains the protruding shaft 23b and the hooking shaft member 24c; and (4) a member 29 which likewise encapsulates and retains the hooking shaft member 25c and the protruding shaft 22a are all insert-formed so that they form an integral piece with the leg part 20.

Further, in this case, the aforementioned shaft side member 21 which is formed in the first formation step and which serves as an inserted member, the foot part 22 and the connecting members 24 and 25 are all made of a material which has a melting point which is higher and a

contraction rate which is lower than those of the members 26, 27, 28 and 29 and the like which are formed in the second formation step.

When the aforementioned configuration is used, the main body members 24a and 25a on the connecting members 24 and 25 which are insert-formed at any location on the member which makes up the leg part 20 are formed to make a section shaped on the same member so that the member 26, the member 27, the member 28 and the member 29 on both sides are completely separated so that any fusion during formation is prevented. At the same time, the hooking state relative to the members on both sides is maintained by the hooking members 24b and 24c and 25b and 25c on both sides of the main body members 24a and 25a which makes possible independent twisting and turning using the hooking shaft members 24b and 25c as shafts.

(Effectiveness of the Invention)

As indicated previously, the body part, leg parts, arm parts and other main component parts of the doll which make up the articulated parts can be formed respectively to form an integral part. The formation members on both sides can be separated by using the main body member of the connecting member which is insert-formed at any location on the member which makes up the body part, the arm parts, the leg parts and the like. At the same time, a structure is formed which makes it possible to twist and turn [the parts] while retaining the hooking mode relative to the members on both sides using the hooking member on both sides of the aforementioned main body member. This makes it possible to greatly reduce the number of parts needed as well as the number of steps involved in assembly without forming a large number of separate parts and without requiring a number of separate manual operations as was the case in the prior-art models thereby greatly reducing the manufacturing costs.

In addition, the inserted member which is formed using the first formation step is made of a material which has a higher melting point and a lower contraction rate than that used in the second formation step. As a result, it does not melt during insertion formation, it can securely encapsulate and retain by using a member which has a higher contraction rate, it does not slacken and does not rattle due to the articulations and others. A frictional force which is appropriate for the various articulated parts can thereby be obtained. At the same time, when the various parts of the toy doll are moved to assume any pose, the mechanical holding power which is required for the various articulated parts can be secured.

4. Brief Explanation of Figures

Figure 1 is a cutaway frontal view of the important parts of the toy doll in a practical embodiment of the present invention. Figure 2 is likewise a cutaway lateral view of the important parts of the toy doll in a practical embodiment of the invention. Figure 3 and Figure 4 are likewise explanatory lateral views of each of the formation steps involved in forming the leg parts of the toy doll. Figure 5 is an exploded inclined view of the important parts of the toy doll in the prior art.

In the figure: 1a and 1b are the runners. 20 is the leg part. 24 and 25 are the connecting members. 24a and 25a are the main body members. 24b, 24c, 25b and 25c are the hooking shaft members.

Patent Applicant: Bandai Co., Ltd.

[two characters illegible] drawings (No changes have been made in the details)

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Amendment of the Proceedings (Form)

March 20, 1986

To: Director-General of the Patent Office

1. Details of the Case: Patent Application Number 60-268992

2. Title of the Invention: Toy Doll

3. Person or Entity Carrying Out Amendment:
Relation to the Case: Patent Applicant

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(Tel) 362-4977 (representative)

5. Date of Order to Amend:
February 25, 1986 (date of expedition)

6. Object of the Amendment: Drawing

7. Details of the Amendment:
See attached sheet [SEAL] [Japanese Patent Office
March 22, 1986
Mr. Mizusawa

[Translator's note: this attached sheet with the amended drawing was not included in the text received from the client]